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The Curability of Epilepsy and Epileptoid Affections by Galvanism and the Phosphated and Arseniated Bromides.

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THE experience of more than a quarter of a century with this once intractable trouble of the cerebral centers, has confirmed the growing conviction that epilepsy, in its graver, as well as in its multiform milder varieties, is not the *approbrium medicorum* our fathers regarded it. The unfavorable prognostications respecting this disease, universally made, up to the time of and by Elliotson, so late as 1844, and reaffirmed later by Watson and his contemporaries, up to the time of the introduction of the bromides in its treatment, a little over thirty years ago, that "it is a disease, which, in a large majority of cases, cannot be cured," will not be borne out in the experience of the diligent physician *who keeps his cases well in hand, and under uninterrupted therapeutic control for a sufficient length of time to enable the irritable psycho-motor area and disordered vaso-motor centers to regain, by prolonged rest and steady reconstruction, their normal tone.*

The physician who undertakes the treatment of a case of epilepsy, either *petit* or *grand mal*, with the expectation of being able to safely suspend treatment before the expiration of eighteen months, or two years, will, in most cases, have a record of failure for his pains; but the physician who, in the beginning of every case, has the courage to accept his cases only upon condition that they are to be constantly under his observation and treatment for a year and a half, or two years, and who will treat them in accordance with the plan which here follows, will, we

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confidently believe, have for his reward more successes than failures. At least, such has been the writer's experience, and he confidently commends it to the profession.

This is not a novice's enthusiastic "great expectations," based upon a few fortuitous results, but the testimony of the steady experience of a professional life, lasting over a quarter of a century, and nearly four-fifths of it spent in the constant study and treatment of epilepsy and its allied neuroses.

Epilepsia is curable only through absolute medical control of the patient for a long time, the removal of all organically depressing influences, and all central nerve excitation and over-tax. In some cases the time of treatment above indicated—eighteen months or two years—is too brief. A much longer period of central nerve tranquilization and reconstruction must be persistently maintained, in order to overcome the conditions upon which the characteristic, explosive paroxysms of nerve force depend.

The expression of a paroxysm of an ordinary epilepsy is, in a certain sense, that of a discharging lesion, like the force represented in the tightened spring of a wound-up clock after the pendulum weight has been removed; the normal inhibitions over irregular discharge are inactive, and the regular volitional display of normal, cerebral life, passes suddenly into irregular psycho-motor activity or convulsions, and stertorous coma.

But the ever-present and persistently abiding condition, in every case of epileptic or epileptoid convulsion, is a vasomotor failure and vascular disturbance, whether the remoter cause be a cerebral tumor or a traumatism, a heart failure, or an embolus, a toxic or thermal blood influence; and this vasomotor disturbance has its *locus morbi* more often in the cortex than elsewhere, as shown by the early suspended or impaired consciousness, and the incipient, sensory, motor or illusory aura; the quivering eyelid, perverted sense of smell, visual and aural hallucinations; though, by the same interpretation, the initial irritation not unfrequently begins

about the bulb, as shown in the early moving lips and acts of automatic deglutition.

The purpose of this paper is not, however, to discuss the pathology of epilepsy, though the writer, for want of better time and opportunity, would here briefly record his conviction that all true epilepsy and epileptoid is cortical in its origin, and essentially a brain disease, though the initial irritation may be, in many cases, of peripheral source.

The following formula will indicate the writer's outline therapy in this affection, a combination which he generally employs, varying the dosage according to circumstance of age, idiosyncrasy, etc.:

℞ Potass. brom. ℥ iss.
Syr. hypophos. co. ℥ iv.
(Sine strychnia).^{*}
Liq. pot. ars. gtt. lx.
Aq. menth. pip. q.s.ft. ℥ vj.

M. S. Two teaspoonfuls three times a day, till bromism is induced; then two doses daily, for a few days; after that two doses for two days, and three for two days, and so on.

In this combination a bitter tonic (as employed by Brown-Sequard) may displace some of the peppermint water, if desirable, and a half-ounce of the bromide of sodium or ammonium may take the place of half an ounce of the potassic bromide; and if syphilis or malaria be complicating influences, ioide of potassium or quinine are given, in addition, in full and adequate doses. The bromide of calcium or syrup of lactophosphate of calcium, the bromide of lithium or manganese, may also be sometimes added to this mixture with advantage to the patient. Chloral, digitalis, iron, rhubarb, glycerine and creosote, or carbohic acid and gastric and pancreatic digestive compounds, are, in my practice, often indispensable for certain obvious indications of head, heart and gastro-intestinal tract.

^{*} Contrary to the views of McLane Hamilton and others, I consider strychnia contra-indicated in epilepsy.

The bad breath which follows excess of bromides is always corrected by glycerine, listerine and carbolic acid, or creosote and the reduction of the quantity of bromide for a while.

In regard to the employment of galvanism, a mild, constant current, plainly perceptible, but not painful when applied to the cheeks with wet sponge electrodes, should be passed from the forehead (each side, over the eyes) to the back of neck, and from the motor areas of the head to the hands of opposite sides. I use this designation of the current, instead of the more scientific Milleampere, because most physicians who hear me are unaccustomed to the use of the Milleampere meter, and because I consider this a good practical method of dosage measurement for cephalic galvanization. The current through the head should always be gentle, and never painful beyond a very slight and tolerable pricking over the superciliary arches at the superficial distributions of the supra orbital nerves, and a little more at the nucha.

This is my management, in outline, of these cases. I need not give you a tedious array of successful cases. They will be made a matter of history in a subsequent and more elaborate communication, designed to be read at leisure, and not to be listened to at the expense of precious time which belongs partly to others as well as myself. Many of you, however, have seen my cases return to your communities after a lengthened treatment, and quite a number of them effectually recovered, and all of them greatly benefited by this method.

These results I attribute chiefly to the persistency of the combined medical and galvanic treatment, and the changed habits and surroundings of the patients.

No epileptic can be cured who persists in the use of tobacco, alcohol or other depressing narcotic, or vicious habit, or who does not give up coffee and tea and learn to use milk and a minimum of animal food, or to use tea and coffee only very sparingly, in the forepart of the day only.

He must have acquired the habit of sleeping abundantly

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and quietly, and should avoid all sources of passionate outbursts and mental worry.

His bowels should be kept uniformly regular on a laxative pill, containing aloin, ergot, colocynth and rhubarb extract, or blue mass, with belladonna (as indicated), at night, with an eighth of a grain of extract of belladonna and a fourth of a grain of extract of conium. An elegant liquid laxative, where capsules cannot be swallowed, is half a drachm, or more, each of fl. ext. ergot and cascara cordial.

The indications for the successful management of epilepsy are to put the general and whole glandular system in physiological working order, remove all sources of eccentric nerve irritation, and daily tranquilize and reconstruct the irritable cerebral centers, keeping up the treatment till all tendency to psychical or motor explosion in the cerebral centers disappears, if it takes a lifetime to do it.

The cephalic galvanization should be employed from three to five minutes at least three times a week, with a descending and labile current, until improvement in the cerebral nerve tone is accomplished and confirmed. Ordinarily a four to six-cell current from a simple McIntosh battery will suffice.

I consider skillfully employed cephalic galvanization a most essential remedy for the permanent cure of epilepsy, notwithstanding it has been disparaged by those who ought better to understand its use and powers before condemning it. The same is true in my experience with its use in chorea,* and all central neuropathic states in which morbid irritability and a tendency to "explosive" cell action—motor or psychical, as in active mania, the paroxysms of hysteria, tetanus and hydrophobia, exists.

To sum up the matter: When the cure of epilepsy is possible by medical means, and it is very often possible to cure this disease if we treat it properly, it is necessary, in every case, to adopt a plan which consists of:

1st. A judicious combination of cerebral reconstruc-

* To this point this paper (barring some important typographical corrections, especially in the formula of hypophosphites, bromides, etc.) was read before the Missouri State Medical Association, May 3d, 1886.

tives, conservators and tranquilizers of nerve force and regulators of explosive action, epilepsy being a discharging lesion—the brain of an epileptic expending its accumulated psychical and motor force during a paroxysm, much as a spring and pendulum clock expends its power by suddenly running down all at once, whenever the pendulum or regulating (“inhibitory force”) is removed.

2d. The control of the cerebral vasomotor system through persistent galvanizations (never Faradizations). The galvanizations of epilepsy are with us, in some cases, an every-day affair (so to speak) for several months—short seances, but long-continued treatments.

3d. The regulation of all the patient's habits, moral, social, psychical and physical; as much so as if he were a patient in an insane asylum, or a pupil in a school for the feeble-minded.

To do this the patient must be studied and treated daily for a while, and must be as well understood by the physician and cared for, as a case of pneumonia, typhoid, or phthisis.

We cure epilepsy in this way—not always, but quite often—often enough to satisfy us well for our pains.

Surgical cures of epilepsia are infrequent and exceptional. The records have many more reports of recoveries than the completed sequences of operations, if recorded after a year or two, instead of after a few weeks or months, would confirm. Our experience with trephining has never been satisfactory. We often found meningeal lacerations, and loose or imbedded spiculæ, which, when removed, left the patient worse off than before so far as the recurrence of the epileptic paroxysms were concerned, and necessitating a return to medical treatment. Ligation and arterial compression of the carotids is but little better in the long run, than trephining, without conjoint medical treatment.

Neither the mechanical or surgical shutting off or diminution of the blood supply of the brain nor the removal of a localized mechanical compression will, as a rule, cure a chronic epileptic habit, which is due, whatever may be

its initial source, to a final implication and consequent control-failure in the vasomotor center, permitting sudden arteriole spasm and unequal and alternating blood-tension in the cerebral capillaries.

But whether or not we attempt surgical relief of this formidable and distressful malady, the preliminary and after-treatment, if we would finally succeed in curing it in any particular case, must be accomplished in accordance with the principles of corrective and restorative neurotherapy above indicated, until our ability to manage epilepsy shall have been enlarged by a wider pathological knowledge, and even more extended observation than the extensive acquaintance Medicine has thus far made, of this most ancient of diseases.

I conclude this note with the scarcely necessary addendum, considering the high professional character of my auditors, that, in addition to this outline management, no therapeutic resource is at times unworthy of employment; nitrite of amyl, chloroform, ether, ammonia or other pungent and vasomotor influencing inhalations; borax, valerian, ferrosocyanuret of iron, serpentaria, aurum bichloride, calabar bean, etc., and occasionally still argenti nitras.
